UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,981	09/06/2006	Rainer Muller	A8423PCT-UT	3846

43749 7590 07/09/2008

CHRISTOPHER PARADIES, PH.D.
FOWLER WHITE BOGGS BANKER, P.A.
501 E KENNEDY BLVD, STE. 1900
TAMPA, FL 33602

EXAMINER	
GUGLIOTTA, NICOLE T	
ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
07/09/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/596,981	MULLER ET AL.	
	Examiner	Art Unit	
	NICOLE T. GUGLIOTTA	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23 - 42* is/are pending in the application.

4a) Of the above claim(s) *1 - 22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23 - 42* is/are rejected.

7)☒ Claim(s) *23,27 and 34* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 June 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/27/2006, 8/3/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the term "paneling" is incorrectly spelled throughout the disclosure.

Appropriate correction is required.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "honeycomb paneling is enclosed by a burn-though-proof foil" and the "side by side honeycombs" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 23, 27, and 34 are objected to because of the following informalities: the term "paneling" is spelled incorrectly throughout the claims. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 23 – 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 23 recites the limitation "outer skin" in the honeycomb paneling. There is insufficient antecedent basis for this limitation in the claim.

7. The terms "CFK" and "GFK" are not defined by the claim, and the specification does not provide a clear definition of the terms. Thus, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The Examiner is

interpreting CFK and GFK to mean, respectively, carbon reinforced plastics and graphite reinforced plastics.

8. The term "thick" in claim 30 is a relative term which renders the claim indefinite. The term "thick" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

9. The term "thin" in claims 31 and 32 is a relative term which renders the claims indefinite. The term "thin" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

10. The term "point of adhesive bond" in claim 34 is a relative term which renders the claim indefinite. The term "point of adhesive bond" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

11. The term "influenced by flame" in claim 35 is a relative term which renders the claim indefinite. The term "influenced by flame" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

12. The term "side by side" in claims 23 and 36 is a relative term which renders the claims indefinite. The term "side by side" is not defined by the claim, the specification

does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

13. The term "non-burn-through-proof" in claim 36 is a relative term which renders the claim indefinite. The term "non-burn-through-proof" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

14. The term "laminar" in claim 26 is a relative term which renders the claim indefinite. The term "laminar" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

15. The term "adjacent support areas" in claim 27 is a relative term which renders the claim indefinite. The term "adjacent support areas" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Examiner's Note

16. Examiner acknowledges the cancellations of claims 1 – 22.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

18. Claims 23, 24, 29, 34 - 36, 40, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humphries et al. (EP 0 279 620 A2, provided by applicant), in view of Fischer et al. (U.S. Patent No. 4,759,964).

19. In regard to claims 24, 36, and 40, Humphries et al. disclose an aircraft (corresponds to applicant's vehicle based upon applicant's definition of vehicle, specification section [0009]) shell module in which the starboard panel and a port panel contains a dampening sheet of vinyl 80 separating honeycomb cores 82 on each side. Exterior to each honeycomb core 82 is a structural face 84. The panel is lightweight and suppresses transmission of sound while still maintaining structural integrity (Col. 4, Lines 6 - 11). Humphries does not disclose the honeycomb body to be made of paper or an aramide (aramid) or a burn-through-proof foil such as CFK or GFK positioned on each face of the honeycomb body.

20. Fischer et al. disclose a cellular structure covered on each side by a layer 3 of fibrous material. On the outer surface the structural panel is also provided with a layer 1 of fibrous material (Col. 2, Line 58 - Col. 3, Line 6). The fibers may be formed from any reinforcing material, e.g. glass fibres, impregnated carbon fibres, and the like. The

structural panel may be installed between any desirable clamping devices (Col. 4, Lines 25 - 28). The resin-rich, structural fibrous layers are not affected by flames (Col. 3, Lines 52 – 55). Fischer et al. disclose it is well known in the prior art for carbon fibre reinforced sandwich panels are intended for us in aero planes in order to keep as low as possible the operating deadweight and, as a consequence thereof, the fuel costs (Col. 1, Lines 24 - 29). Aluminum foil 2 serves as an insulation layer for the resin-rich interior of the floor panel (Col. 3, Lines 35 - 37). This layer 2 is preferably gas-tight; thus hot gases are prevented from passing through the layer and then burning the layer situated therebelow. This layer preferably also has good thermal conductivity, like aluminum, and thereby dissipated the heat (Col. 3, Lines 26 - 30).

21. It would have been obvious to one skilled in the art at the time the invention was made that CFK (carbon reinforced fiber) cover layers are adhered to honeycomb structures for use in airplanes due to their light weight and ability to dissipate heat, such as in the event of a fire, as disclosed by Fischer et al.

22. In regard to claim 24, Humphries et al. are silent in regard the use of adhesive between honeycomb bodies or the use of a foil.

23. Fischer et al. disclose the first CFK layer is joined to a second CFK layer (between honeycombs) by a phenol resin, and said second layer is joined to a layer situated therebelow by epoxy resin (Col. 4, Lines 61 – 64).

24. It would have been obvious to one skilled in the art at the time the invention was made that adhesives, such as phenol resin and/or epoxy resin, would be used to attach the various layers of the honeycomb panel to one another, as disclosed by Fischer et al.

25. Claim 25 – 27 – 28, 30 - 32 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humphries et al. and Fischer et al. as applied to claim 23 above, and further in view of Heitkamp (EP 0 624 462 A1, provided by applicant).

26. In regard to claims 25, 26, 27, and 42, Humphries et al. disclose at least two honeycomb bodies containing a dampening layer.

27. Fischer et al. disclose CFK cover layers above and below a single honeycomb layer.

28. Heitkamp discloses multiple layers of honeycomb structures (Figure 1).

29. It would have been obvious to one skilled in the art at the time the invention was made that it is commonly known in the art to stack honeycomb structures to form a multilayered structure, as shown by Heitkamp.

30. In regard to claim 28, it would have been obvious to one skilled in the art that stacking the honeycomb structures creates a plurality of CFK layers and to duplicate parts in order to form a multilayer structure, as shown by the Heitkamp in the arguments made of claims 24 – 27.

31. In regard to claim 29, Humphries et al. is silent in regard to the material for a honeycomb material.

32. Fischer et al. disclose a core preferably formed from impregnated, paper-like material, e.g. Aramid fibrous paper are advantageously flat (Col. 2, Lines 21 - 37).

33. It would have been obvious to one skilled in the art at the time the invention was made that aramid fibrous paper is commonly known in the art for the manufacturing of honeycomb paneling used in aircraft, as shown by Fischer et al.

34. In regard to claims 30 - 32, the CFK insulation layers (CFK-Al-CFK cover layers) disclosed by Fischer (as noted above for claim 23) are thick. The plurality CFK barrier layers disclosed by Fischer (as noted above for claim 23) are thin.

35. In regard to claim 34 and 35, Humphries et al. is silent in regard to an adhesive.

36. Fischer et al. disclose the first CFK layer is joined to a second CFK layer (between honeycombs) by a phenol resin, and said second layer is joined to a layer situated therebelow by epoxy resin (Col. 4, Lines 61 – 64). Fischer et al. disclose their invention is intended for in the event of a fire and should be able to withstand temperatures of 700 - 800°C, and perhaps higher (Col. 2, Lines 6 – 12).

37. It would have been obvious to one skilled in the art at the time the invention was made that adhesive bonds from compounds such as phenol resin or epoxy resin would be non-detachable at high temperatures, as disclosed by Fischer et al.

38. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Humphries et al. and Fischer et al. as applied to claim 31 above, and further in view of Sigrafil® Corp (http://www.sglcarbon.com/sgl_t/industrial/sigrafil/index.html).

39. In regard to claim 33, Humphries et al. and Fischer et al. are silent in regard to the CFK barrier layers being a plastic foil.

40. Sigrafil® Corp disclose on their webpage (which is dated back to 2002, see "Wayback Machine" results) plastic carbon reinforced fiber having multiple advantages including good rigidity, corrosion resistance, low thermal expansion, low mass, excellent fatigue resistance, and vibration resistance.

41. It would have been obvious to one skilled in the art at the time the invention was made that CFK barrier layers in the form of a plastic foil has multiple advantages, as taught by Sigrafil® Corp.

42. Claims 37 – 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humphries et al. and Fischer et al. as applied to claim 23 above, and further in view of M.C. Brady (U.S. Patent No. 2,581,625).

43. In regard to claim 37 – 39, Humphries et al. and Fischer et al. are silent in regard to the means of mounting the panels in the airplane fuselage.

44. M.C. Brady discloses attachment mechanisms such as rivets 18 (corresponds to applicant's connection element), washers 18a & 23a (corresponds to applicant's

leadthrough/hole), nuts 23 (threaded hole), nut plates 24, through-bolds 28 (corresponds to applicant's connection element) to fasten the insulation panels to the inside stringers of the airplane fuselage (Col. 3, Lines 16 – 17, 41 – 44, 61 – 62 & Fig. 3 - 5).

45. It would have been obvious to one skilled in the art at the time the invention was made for threaded drill holes to be created when drilling a screw (a connection element) into the insulation material. Commonly known means of mounting honeycomb paneling to the aircraft fuselage has been disclosed by M.C. Brady, and therefore it would be obvious to use these commonly known means for mounting applicant's panels.

Double Patenting

46. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

47. Claims 36 and 38 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of copending Application No. 10/596,982. Although the conflicting claims are not identical, they are not patentably distinct from each other because they both address the same components and features of the insulation package for the interior of an aircraft fuselage.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

48. Claims 23 and 40 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/596,418. Although the conflicting claims are not identical, they are not patentably distinct from each other because they claim the same insulation package and the same components of this package.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE T. GUGLIOTTA whose telephone number is (571)270-1552. The examiner can normally be reached on M - Th 8:30 - 6 p.m., & every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NICOLE T. GUGLIOTTA
Examiner
Art Unit 1794

/Carol Chaney/
Supervisory Patent Examiner, Art Unit 1794